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March 1, 2004

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Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Re:

U.S. Utility Patent Application

Application No. 10/630,896; Filed: July 31, 2003

For: Aryl Substituted Benzimidazoles and Their Use as Sodium Channel

**Blockers** 

Inventors:

SUN et al.

Our Ref:

1861.1520001/JMC/RHD

Sir:

Transmitted herewith for appropriate action are the following documents:

- 1. SKGF Cover Letter;
- 2. Information Disclosure Statement;
- 3. 7 pages of Form PTO-1449 citing 37 documents;
- 4. Copies of 28 documents; and
- 5. One (1) return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Sterne, Kessler, Goldstein & Fox P.L.C.: 1100 New York Avenue, NW: Washington, DC 20005: 202.371.2600 f 202.371.2540: www.skqf.com

Commissioner for Patents March 1, 2004 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

John M. Covert

Attorney for Applicants Registration No. 38,759

JMC/RHD:cpn



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Sun et al.

Appl. No. 10/630,896

Filed: July 31, 2003

For:

**Aryl Substituted** 

Benzimidazoles and Their Use as Sodium Channel Blockers

Confirmation No. 9619

Art Unit:

To be assigned

Examiner:

To be assigned

Atty. Docket: 1861.1520001/JMC/RHD

## **Information Disclosure Statement**

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Copies of documents AA1-AK1 and AA2 are not provided in accordance with the U.S. Patent and Trademark Office pre-OG notice of July 11, 2003, which states "[t]he Office hereby waives the requirement under 37 CFR 1.98 (a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. patent application publication for all U.S. national patent applications filed after June 30, 2003." A copy of each other document is included.

In accordance with 37 C.F.R. § 1.98(a)(3), Applicants' undersigned representative submits the following, in regards to non-English language documents **AL1** and **AO1** cited on Form PTO 1449:

Document AL1, European Patent Publication No. EP 0 639 573 A1, is in the German language. An English language abstract of document AL1 is attached as document AS6.

Document AO1, Japanese Patent Publication No. JP 2000323278, is in the Japanese language. An English language abstract of document AO1 is attached as document AT6.

The Examiner's attention is directed to the following co-pending U.S. Patent Applications, which are directed to related technical subject matter:

- U.S. Application No. 10/628,487, Sun *et al.*, filed July 29, 2003, and submitted herewith;
- U.S. Application No. 10/630,763, Sun, Q. and Kyle, D.J., filed July 31, 2003, and submitted herewith; and
- U.S. Application No. 10/630,814, Sun, Q. and Kyle, D.J., filed July 31, 2003, and submitted herewith.

The identification of these U.S. Patent Applications is not to be construed as a waiver of secrecy as to these applications now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited applications and the art cited therein during examination.

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention

over any of the information provided herewith, and/or to prove that this information may

not be prior art, and/or to prove that this information may not be enabling for the

teachings purportedly offered.

This statement should not be construed as a representation that a search has been

made, or that information more material to the examination of the present patent

application does not exist. The Examiner is specifically requested not to rely solely on

the material submitted herewith.

This Information Disclosure Statement is being filed before the mailing date of a

first Office Action on the merits. No statement or fee is required.

It is respectfully requested that the Examiner initial and return a copy of the

enclosed PTO-1449, and indicate in the official file wrapper of this patent application

that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee

deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Attorney for Applicants

Registration No. 38,759

1100 New York Avenue, N.W. Washington, D.C. 20005-3934

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FORM PTO-1449

ATTY. DOCKET NO. 1861.1520001/JMC/RHD FIRST NAMED INVENTOR APPLICATION NO. 10/630,896

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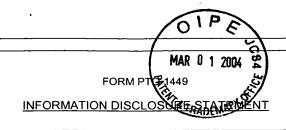
Sun et al.

DATE CONSIDERED

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EXAMINER			CUMENT NUMBER	ľ		CLASS	SUB CLASS	FILING DATE
INITIAL	AA1	- i	CUMENT NUMBER 11,177 B1	04/03/2001	Sperl et al.	CLASS	SUB-CLASS	11/24/1998
	AB1	6,3	35,354	01/01/2002	Hogenkamp			03/29/2001
	AC1	200	02/0006947 A1	01/17/2002	Hogenkamp et al.			03/22/2001
	AD1	200	02/0022624 A1	02/21/2002	Dinnell et al.			07/11/2001
	AE1	200	02/0040025 A1	04/04/2002	Hogenkamp et al.			03/12/2001
	AF1	6,4	14,011	07/02/2002	Hogenkamp et al.			03/24/2000
	AG1	200	03/0055088 A1	03/20/2003	Shao et al.			09/06/2002
	AH1	200	03/0069292 A1	04/10/2003	Hogenkamp et al.			04/30/2002
	Al1	200	03/0073724 A1	04/17/2003	Shao et al.		_	09/06/2002
	AJ1	200	03/0109521 A1	06/12/2003	Sun et al.			07/16/2002
	AK1	200	03/0236273 A1	12/25/2003	Goehring et al.			03/13/2003
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EXAMINER INITIAL		DO	CUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL1	EP	0 639 573 A1 🖊	02/22/1995	Germany			Yes X No
	AM1	wo	O 98/08818 🖊	02/25/1999	WIPO			Yes No
	AN1	wo	99/43672	02/09/1999	WIPO			Yes No
	AO1	JP	2000-323278. /	11/24/2000	Japan			Yes X No
	AP1	wo	0 01/21634	03/29/2001	WIPO			Yes No
	Т	1	OTHER (Includ	ing Author,	Title, Date, Pertinent Pages,	etc.)		
	Bensimon, G., et al., "A Controlled Trial of Riluzole in Amyotrophic Lateral Sclerosis," New Engl. J. Med. 330:585-591, Massachusetts Medical Society (1994)							
Brown, C.M., et al., "Neuroprotective properties of lifarizine compared with agents in a mouse model of focal cerebral ischaemia," British J. Pharmac Stockton Press (1995)								
	АТ	1			that Act on Voltage-Sensitive rmacol. Toxicol. 20:15-43, Ann			

**EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

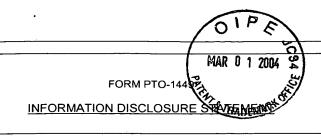
**EXAMINER** 



Page 2 of 7 ATTY. DOCKET NO. APPLICATION NO. 1861.1520001/JMC/RHD 10/630,896 FIRST NAMED INVENTOR Sun et al. FILING DATE July 31, 2003 ART UNIT

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EXAMINER INITIAL		DO	CUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE	
	AA2	200	04/0002523 A1	01/01/2004	Hogenkamp et al.			06/09/2003	
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	AR	<u>2</u>	OTHER (Including Author, Title, Date, Pertinent Pages, etc.)  Catterall, W.A., "Structure and Function of Voltage-Sensitive Ion Channels," <i>Science</i> 242:50-61, American Association for the Advancement of Science (1988)						
	AS	2	antiarrhythmics	Catterall, W.A., "Common modes of drug action on NA <sup>+</sup> channels: local anesthetics, antiarrhythmics and anticonvulsants," <i>Trends Pharmacol. Sci.</i> 8:57-65, Elsevier Science Publishers (1987)					
	AT	2	Denicoff, K.D., et al., "Efficacy of Carbamazepine Compared With Other Agents: A Clinical Practice Survey," J. Clin. Psychiatry 55:70-76, Physicians Postgraduate Press (1994)						
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1861.1520001/JMC/RHD

FIRST NAMED INVENTOR
Sun et al.

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July 31, 2003

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APPLICATION NO.

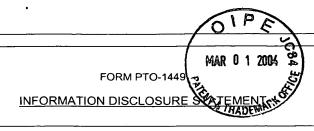
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	AR	<u>3</u>		Donaldson, I., "Tegretol: A double blind trial in tinnitus," <i>J. Laryngol. Otol.</i> 95:947-951, Journal of Laryngology and Otology Ltd. (1981)						
	AS	3	Voltage-Depend J. Pharmacol. E.	Graham, S.H., et al., "Neuroprotective Effects of a Use-Dependent Blocker of Voltage-Dependent Sodium Channels, BW619C89, in Rat Middle Cerebral Artery Occlusion," J. Pharmacol. Exp. Ther. 269:854-859, The American Society for Pharmacology and Experimental Therapeutics (1994)						
	AT	3		Majumdar, B., et al., "An electrocochleographic study of the effects of lignocaine on patients with tinnitus," Clin. Otolaryngol. 8:175-180, Blackwell Scientific Publications (1983)						
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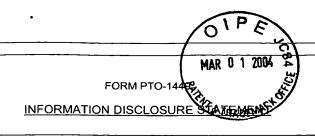
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Sun et al.

FILING DATE July 31, 2003 ART UNIT To be assigned

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	AR	4	Mane, D.V., <i>et al.</i> , "Synthesis and biological activity of some new 2-alkyl-1-(1'-dihydropyridylmethyl)benzimidazoles," <i>Indian J. Chem. 34B</i> :917-919, The Council of Scientific & Industrial Research (1995)							
	AS	4	Moller, A.R., "Similarities Between Chronic Pain and Tinnitus," <i>Am. J. Otol.</i> 18:577-585, American Journal of Otology, Inc. (1997)							
	АТ	4			V.E., "Recent advances in the evier Science (1999)	pharmac	cological trea	atment of		
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ATTY. DOCKET NO.

1861.1520001/JMC/RHD

FIRST NAMED INVENTOR
Sun et al.

APPLICATION NO.

10/630,896

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ART UNIT
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	AS	<u>5</u>		and Na <sup>+</sup> -	echanisms of Anoxic Inju Ca <sup>2+</sup> Exchanger," <i>J. Ne</i>			
	AT	<u>5</u>			, B.S., "Na <sup>+</sup> channels as 6, Elsevier Science Ltd.		oprotective d	rugs," <i>Trend</i>
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ATTY. DOCKET NO. 1861.1520001/JMC/RHD APPLICATION NO. 10/630,896

Page 6 of 7

FIRST NAMED INVENTOR

Sun et al. FILING DATE

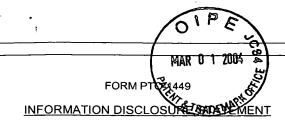
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FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

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	OTHER (Including Author, Title, Date, Pertinent Pages, etc.)								
	AR	<u>6</u>	Tonndorf, J., "The analogy between tinnitus and pain: A suggestion for a physiological basis of chronic tinnitus," <i>Hear. Res.</i> 28:271-275, Elsevier Science Publishers (1987)						
	AS	<u>6</u>							
	АТ	<u>6</u>	English language abstract of JP 2000323278, Derwent-World Patents Index (Dialog File 351), WPI Accession No. 13736273						
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ATTY. DOCKET NO.	APPLICATION NO.
1861.1520001/JMC/RHD	10/630,896
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